| MODEL: | ATARI CX5200 | | DATE: | 11/17/82 |

<u>SUBJECT:</u>

CX5200 Power Adaptor

<u>DESCRIPTION:</u>

Do not use an HCD Power Adaptor with the CX5200 as it will damage both the HCD Power Adaptor and the CX5200 Switchbox.

The proper Power Adaptor to use with the CX5200 is:

     CX521 AC/DC Power Adaptor, Part Number C018187

     Output: 9.3 volts DC at 1.95 A.

<u>TROUBLESHOOTING AND MAINTENANCE:</u>

N/A

<u>TESTING PROCEDURES:</u>

N/A

<u>ENCLOSURES:</u>

N/A

ATARI

| MODEL: CX5200 | | DATE: 1/20/83 |

SUBJECT:

Defective Rockwell 6502 MPU on CX5200 PC Board.

DESCRIPTION:

Rockwell MPUs with date code of 8250 and later (stamped with the letters RC) have a timing defect.

A factory modification adds an R-C network on the component side of the CX5200 PC Board at IC U14A (pin 1) and U6A (pin 4) (see Figures 1 and 2).

Note: You do not need to remove this network to use any other manufacturer's MPU or a Rockwell MPU with a different date code.
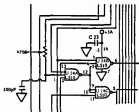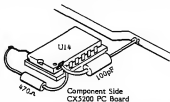

Figure 1. CX5200 Schematic (R-C Network)

Figure 2. Factory Modification

1C101 (3/82)

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VCS

number 7 CONT.

MODEL: CX5200   DATE: 1/20/83

If you are installing an RC stamped 6502 on a CX5200 PC Board which has not had the factory modification added to the component side:

Add an R-C network to the solder side of the PC Board (See Figure 3).
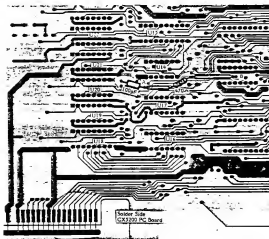

Solder Side
CX5200 PC Board

Figure 3. R-C Network (Add to solder side of CX 5200 PC Board)

PROCEDURES:

You will need:

- 1 - 100 pf capacitor (P/N C014180-03)
- 1 - 470 Ω resistor (P/N 14-54711)
- Sleeving (approximately 2" in length)

MODEL:	CX5200		DATE:	1/20/53

See Figure 3 for the following steps:

1. Straighten the lead of C27 (solder side) and solder one lead of the 100 pf capacitor to it.

2. Point A is an unoccupied well between IC's U14 and U17. It is connected directly to Pin 1 of U14. Cut the trace running between points A and B as close to Point A as possible. Use a DVM to insure that the trace is now open.

3. Add sleeving to the lead of the 470 Ω resistor. Insert the lead into the well at Point A and solder.

4. Wrap the remaining lead of the 100 pf capacitor around the lead of the 470 Ω resistor at Point A and solder.

5. Remove the solder from well at Point B which is directly beneath U6. Add sleeving to the remaining lead of the 470 Ω resistor. Insert this lead into the hole at Point B and solder.

TESTING PROCEDURES

Use standard testing procedures as outlined in the CX5200 Field Service Manual (P/N FD100127, Rev. 2).

DIFFICULTY REPORTING

If you have any questions or need further clarification concerning this Tech Tip, contact the ATARI Tech Line Specialist.

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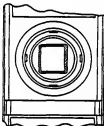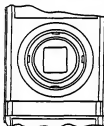| MODEL:	CX5200	DATE:	1/20/83

SUBJECT: CX5200 Controller

DESCRIPTION:

Repair CX5200 Controllers with damaged boots in the following manner:

1) Follow Disassembly instructions for the CX5200 Controller in the CX5200 Field Service Manual.

2) Remove the top controller case and pull off the joystick handle.

3) Remove the boot retaining ring. Remove and discard the damaged boot.

4) If the top controller case contains the square ridge around the access well, as illustrated in "A" below, remove and discard it. Replace it with the new top controller case in which this square ridge has been removed, as illustrated in "B".

Old Top Controller Case   New Top Controller Case

5) Insert new boot, retaining ring, and joystick handle.

6) Reassemble controller according to the instructions in the CX5200 Field Service Repair Manual.

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MODEL: CX5200	DATE: 1/20/83

SUBJECT: CX5200 Controller

DIFFICULTY REPORTING:
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ENCLOSURES:
20 modified top controller cases

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ATARI

TT
VCS
number 09

MODEL: 5200   DATE: April 8, 1983

SUBJECT:

5200 Controller Knob Puller Tool

PROBLEM AND SOLUTION:

It has been learned that removal of the 5200 Controller Knob is difficult.

To assist you with this task, a 5200 Controller Knob Puller Tool (FC100214) is now available from our Sales Order Department.

USE AND METHODOLOGY:

This tool is used to easily remove the controller knob without damaging the controller.

Push the knob shaft into one of the corners of the top housing opening. Push down the boot with the tool to expose the shaft. Push the tool toward the shaft until the shaft is inside the notch of the tool's head (See Figure 1). Now, gently lever the tool, and the knob will pop off.

NOTE: By using care, you will not damage the boot during this process.

Figure 1. Controller Knob Removal.

PROBLEM REPORTING:

If you require further information or assistance concerning this Tech Tip, contact the Atari Tech-Line Specialists.

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1C192 (1/82)

ATARI

| MODEL: | 5200 | | DATE: April 8, 1983 |

SUBJECT:

New Fire Button (C020501)

PROBLEM:

The fire button on current 5200 controllers have been accused of being "mushy and slow to respond".

SOLUTION:

Atari has designed a fire button which is not mushy and reacts rapidly. This new fire button will replace the old models. When ordering fire buttons use part number C020501.

TESTING AND TROUBLESHOOTING:

There is no change to either maintenance or trouble shooting techniques because of this change.

PROBLEM REPORTING:

If you have questions or require further explanation concerning this Tech Tip, contact your Atari Tech-line Specialists

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TECH TIP

TT
VCS
number 11

| MODEL: | 2600A ATARI Video Computer System | DATE: | April 8, 1983 |

SUBJECT:

Capacitor at C241

DESCRIPTION

The capacitor at C241 may be of the incorrect rating. An easy way to identify a problem capacitor is to look at the screen with the diagnostic cartridge on the COLOR BARS. The screen is grainy with faint vertical bars. (The COLOR BARS look like color squares.)

SOLUTION:

Install part number 21-101224M at C241.

PARTS:

PART NUMBER	DESCRIPTION
21-101224M	.22uf Axial Lead Polycap - 100v.

INSTALLATION PROCEDURE:

Desolder and remove capacitor at C241, and insert and solder 21-101224M into its place.

TESTING PROCEDURES:

Use standard testing procedures as outlined in the 2600/2600A Field Service Manual (FD100133).

PROBLEM REPORTING:

If you have questions or require further explanation concerning this Field Change Order, contact your Atari Tech-line Specialist:

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TECH TIP

TT
VCS

number **12**

| MODEL: | 5200 | | DATE: | June 6, 1983 |

SUBJECT:

Printed Circuit Board (CA018087)

PROBLEM AND SOLUTION:

Some 5200 units display a blank dark screen or a screen with garbled information. The probable cause for either of these symptoms is an intermittent solder short (bridge) on the PCB between the A0 Address line trace and the feedthru pad of the REF Line trace (near connector J1).

TROUBLESHOOTING:

The problem has been seen to occur during one of the following three instances:

    i)   When the system is powered-up – the screen is usually blank and dark.

    2)   After the system is powered-up with a cartridge in place – the screen will display random garbled data.

    3)   Either of the above can be seen when the PCB is moved or slightly flexed near connector J1.

SOLUTION:

To remedy the problem, perform the following five procedures in the exact order given:

    1)   Turn off power, and disconnect AC and interconnect cables.

    2)   Disassemble unit to expose the component side of the PCB (CA018087).

    3)   Locate connector J1, and the adjacent A0 Address trace and the feed-thru pad of the REF Trace (See Figure 1).

    4)   Carefully remove the excess solder from the pad and wipe the area clean. Inspect the pad and if necessary use an X-acto knife to cut a shallow groove between the A0 Address Line and the feedthru pad. Be very careful not to nick or cut the trace adjacent to the pad.

    5)   Reassemble and test the unit.

MODEL: CX5200   DATE:

Remove excess solder
between trace & feed-
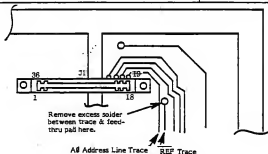thru pad here.

All Address Line Trace   REF Trace

Figure 1. 5200 PCB Solder Side at J1

DIFFICULTY REPORTING:

If you need further clarification concerning this Tech Tip, call the Atari Tech-Line
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1C161 (3/83)

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TECH TIP

TT
VCS

number **13**

MODEL: Atari CX5200 TM Supergame	DATE: July 7, 1983

SUBJECT:

Signetics 74LS258AN L.C. (C019052) at locations A16 and A17 on 4-Port (CA020109) and 2-Port (CA021375) PCB's.

DESCRIPTION:

The timing of some Signetics LC's causes RAM information to be distorted. This results in a scrambled screen display or worse - no video at all.

Manufacturing has corrected this problem in some units. However an unknown quantity have been released to the field.

This tech tip is to make you aware of the problem, its manufacturing installed solution, and procedures for your repair of Signetic LC's which cause the display of a scrambled or no video screen.

SOLUTION:

C145 (C019179-24) should be paralleled with another 390pf capacitor (C019179-24) and a 470 Ohm resistor (14-5471) be added from C137 to R134 (See Figure 1).
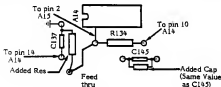

Figure 1. Resistor/Capacitor Fix

If the unit still displays a faulty screen, swapout A16 and A17 with another vendor's component. DO NOT USE A SIGNETICS LC.

TROUBLESHOOTING AND MAINTENANCE:

These changes do not effect the troubleshooting procedures outlined in the Atari CX5200 Field Service Manual (FD100127).

MODEL: Atari CX5200™ Supergame	DATE: June 22, 1983

DIFFICULTY REPORTING

If you have any questions or need further assistance, call the Atari Techline Specialist.

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TT
VCS
number **14**

MODEL:		DATE: July 8, 1983
5200™ Supergame.		

SUBJECT:

Paddle Jitter on CX3200 PCB & Part CA018087)

DESCRIPTION:

Some 5200 PCB's demonstrate paddle jitter caused by a ripple on the +5v power supply to the POKEY IC (U7), and an inadequate ground trace at Pin 1 of U7.

SOLUTION:

To eliminate paddle jitter a 10uf capacitor (C017516) must be soldered directly across the +5v and ground legs (Pins 1 and 17) of U7. A sleeved jumper wire must also be connected between Pin 1 of U7 and another ground trace.

MATERIAL:

10uf Tantalum Cap 20v 10%	P/N C017516
16 Gauge Buss wire	2 inches
16 Gauge Plastic Sleeving	4 inches

PROCEDURE:

Perform the following seven steps ONLY on those 5200 PCB's which exhibit paddle jitter.

1) Trim Capacitor to an overall length of 1 5/8 - 1 3/4 inches.

2) Cover the capacitor leads with sleeving. Approximately 1/8 inch of the lead must extend beyond the sleeving for soldering.

3) Solder the "+" lead of the cap to Pin 17 of U7 (+5 volts). Solder to the I.C. Leg.

4) Solder other cap lead to Pin 1 of U7 (ground). Solder to the I.C. leg.

5) Cover 1 1/4 inches of buss with plastic sleeving leaving sufficient length at each end for soldering.

6) On the solder side of the PCB solder one end of the sleeved buss wire to Pin 1 of U7. See Figure 1.

7) Solder the other end of the sleeved wire to the ground lead of C104. See Figure 1.

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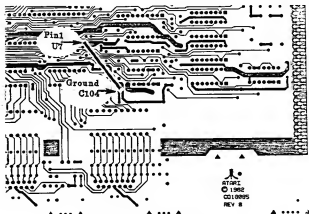number 14

MODEL: 5200™ Supergame

DATE: July 3, 1983

Figure 1. Sleeve Buss Wire Placement

TESTING:

Reassemble unit and test unit with a game cartridge ensuring that paddle jitter no longer exists.

TROUBLE REPORTING:

If you have any questions or need further assistance, call the Atari Techline Specialist.

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TECH TIP

TT
VCS
number **15**

| MODEL: | ATARI CX55™ Atari Cartridge Adaptor | DATE: | September 12, 1983 |

SUBJECT:

Modifying the CX55.

DESCRIPTION

Screen jitters when Ms. Pacman is played.

SOLUTION:

On the solder side of the PCB, use two jumper wires to reroute traces between 31, Pins 15 and 16 and the data bus (See MODIFICATION PROCEDURES).

MODIFICATION PROCEDURES:

On Adaptors which exhibit screen jitter when Ms. Pacman is played, perform the following modifications

NOTE: Some CX55's may have been modified during production. Use these procedures to make certain the jumpers have not become detached.

    1. On the solder side of the Adaptor PCB, carefully cut the traces shown in Figure 1.
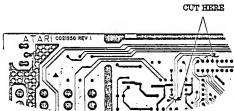
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Figure 1. Trace Cuts

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VCS

number **15**

| MODEL: | ATARI CX55 Atari Cartridge Adaptor | DATE: | September 12, 1983 |

2. Wrap one end of the jumper wire around Pin 15 of J1, and attach the other end of the wire to the feed-thru identified as A in Figure 2 (below R9).

3. Wrap one end of another jumper wire around Pin 16 of J1, and attach the other end of the wire to the feed-thru identified as B in Figure 2 (near the ends of C12 and R14).

4. Use a non-conductive material and tack the jumper wires to the board. Tack the wires at locations identified as C in Figure 2.
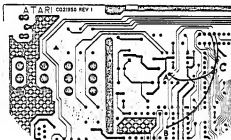

Figure 2. Jumper Wire Placement

TESTING PROCEDURES:

These changes do not effect the troubleshooting procedures outlined in the CX55 Cartridge Adaptor Field Service Manual (FD100570).

PROBLEM REPORTING:

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IC191 (5/82)

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TT
VCS

number **17**

MODEL:	DATE:
ATARI CX5200C Two-Port (CA021375)	August 2, 1983

SUBJECT:

Additional information to accompany TT VCS 13, dated July 7, 1983.

DESCRIPTION:

Due to the unavailability of 74LS258 LC's, some units were manufactured with 74LS158 (C014345) LC's at locations A16 and A17.

When 74LS158 LC's are used the following modifications were performed on the PCB.

1. Traces between Pin 11 and Pin 12 of A15 were cut on both sides of the PCB.

2. Jumpers were installed in the following areas:

    A. between Pin 11 of A15 and Pin 3 of A27.

    B. between Pin 1 of A27 and Pin 9 of A14.

    C. across Pins 1 and 2 of A27.

3. Capacitors C55 and C145 were changed from 390pf to 470pf (C014179-16).

TESTING AND TROUBLESHOOTING:

Troubleshooting A16 and A17 do not change.

The only changes occur when troubleshooting CAS/RAS timing. Using the DESCRIPTION (above), should have little difficulty identifying the circuit differences.

NOTE: If you must replace A16 or A17, make certain that you replace both LC's with a 74LS258 (C019052).

Circuitry changes required for the 74LS158 do not effect the operation of the newly installed 74LS258's.

DIFFICULTY REPORTING:

If you have questions or require further explanation concerning this Tech Tip, call your ATARI Techline Specialist:

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TECH TIP

TT
VCS
number 18

| MODEL: | 5200 POP | DATE: August 11, 1983 |

SUBJECT:

5200 Retail Demonstrator Keyboard Spacers

DESCRIPTION:

The backing of the telephone-style keypads used on the 5200 Retail Demonstrator have been breaking because of insufficient support.

SOLUTION:

When repairing or replacing a controller assembly, perform the following modification to the controllers keyboard.

Using two Tie Mounting Sticky Back Spacers (FC100604), perform the MODIFICATION PROCEDURES, below:

MODIFICATION PROCEDURES:

1) Remove the four nuts and washers that hold the keyboard plate to the control panel.

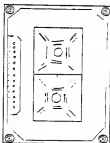2) Remove the keyboard plate.

3) Install spacers (see Figure 1).

Figure 1. Spacer Installation

4) Reassemble the keyboard plate and keyboard.

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TT
VCS

number __18__

MODEL:	5200 POP	DATE:	August 11, 1983

TESTING AND TROUBLESHOOTING:

Use testing procedures outlined in the 5200 Field Service Manual (FD100127).

PROBLEM REPORTING:

If you have questions or require further explanation concerning this Tech Tip, contact your Atari Techline Specialist.

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MODEL: ATARI CX53 TRAKBALL	DATE: October 20, 1983

SUBJECT:

This Tech Tip covers two CX53 problems.

    1)   The metal domes under the fire buttons shift around under the mylar sheeting causing sporadic contact.

    2)   The 12-button keypad or the SELECT keypad slips under the top case.

SOLUTION:

Use eleven ATARI 810™ Disk Drive hole covers (C014106) and place them in the positions on the bottom case shown in Figure 1.
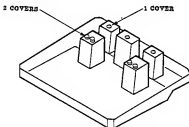

Figure 1. Hole Cover Placement

TESTING AND TROUBLESHOOTING:

This does not change the testing and troubleshooting procedures found in the ATARI CX3200™ Field Service Manual (FD109127 Rev. 4).

PROBLEM REPORTING:

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